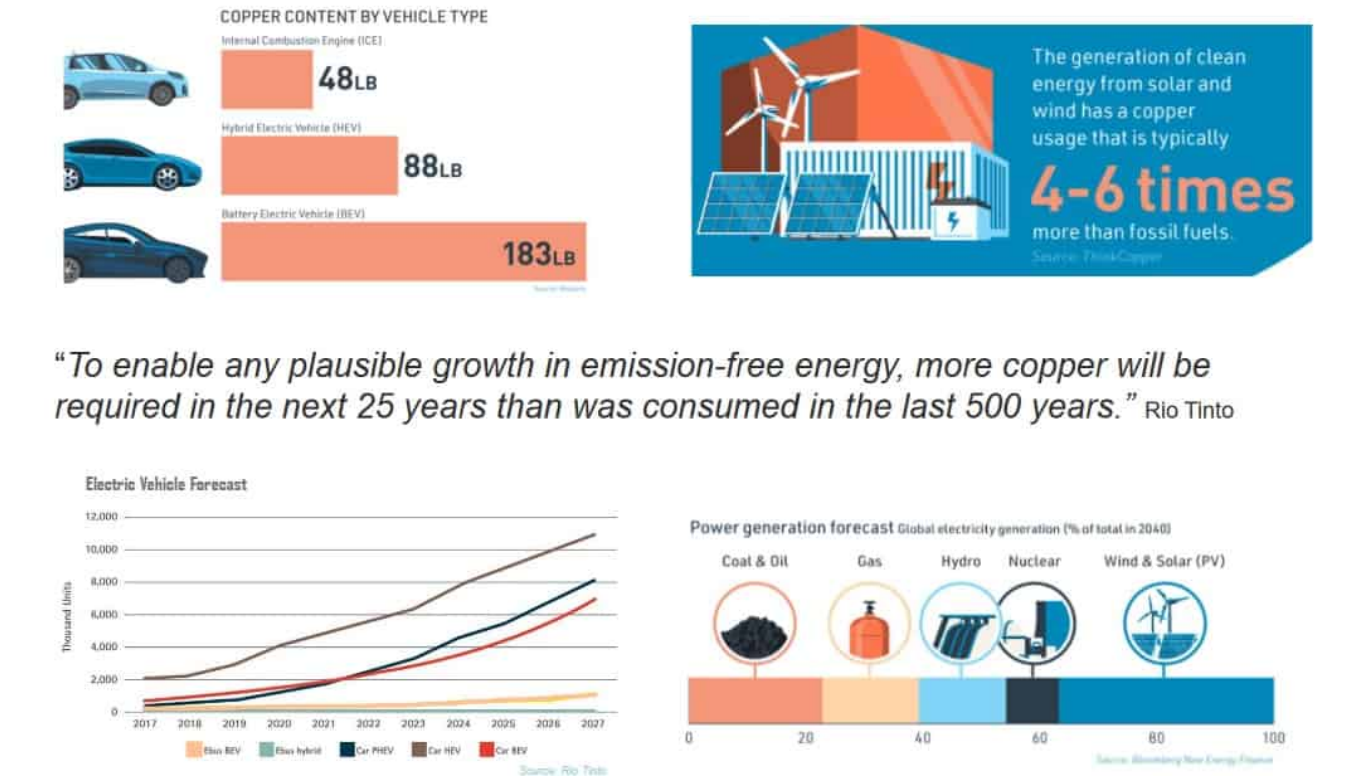
Attracting attention through drill results, Kodiak Copper is positioned well for the green energy supercycle

The copper sector is widely regarded as being one of the possible future winners from the green energy and electric vehicle (EV) revolution this decade. Just recently Goldman Sachs “proclaimed the dawn of a new commodity supercycle“, with copper as their number one commodity pick. A supercycle is not just a short upswing it is a decade or more long upswing caused usually by a significant demand surge. In the case of copper, the demand surge will come from solar energy, wind energy, and EVs.

For example, BHP says that one wind turbine uses 4 tonnes of copper (video link), which certainly is a lot of copper especially given copper currently trades at US$7,396/tonne.

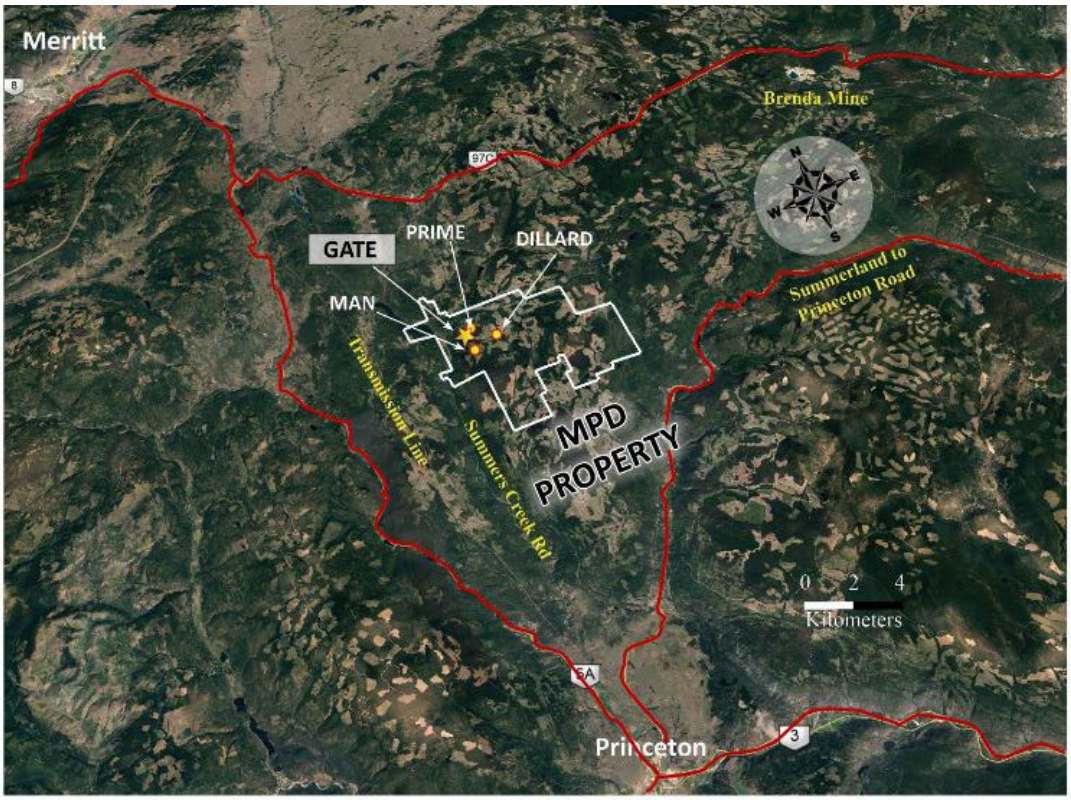
Copper is essential for the green energy revolution, used in solar, wind, and EVs



Source: Kodiak Copper investor presentation

Kodiak Copper Corp. (TSXV: KDK) 100% own the very large (9,733-hectare land package) MPD copper-gold porphyry property in a proven, mineral producing belt, in British Columbia (BC), Canada. For those that are new to Kodiak Copper, the Company amalgamated 3 projects into one – Man, Prime, Dillard – hence the name MPD. Management is top tier with a great track record of success. What's most exciting is their safe location and potential for a large scale copper-gold project, just as we enter the decade of renewables (solar, wind) and EVs taking massive market share.

The MPD Property has road access and is close to nearby power, towns, and other mines



- Property adjacent to highways and with excellent road and trail access
- Close to nearby mines, transmission corridor and towns of Merritt, Princeton and Kelowna

Source: Kodiak Copper investor presentation

The MPD Property has numerous showings of copper and gold confirmed across a large, 10km2 area. Drill results point toward the potential for a large copper-gold porphyry system. There is mineralization from at or near surface to as deep as ~800 meters with huge potential exploration upside across the property.

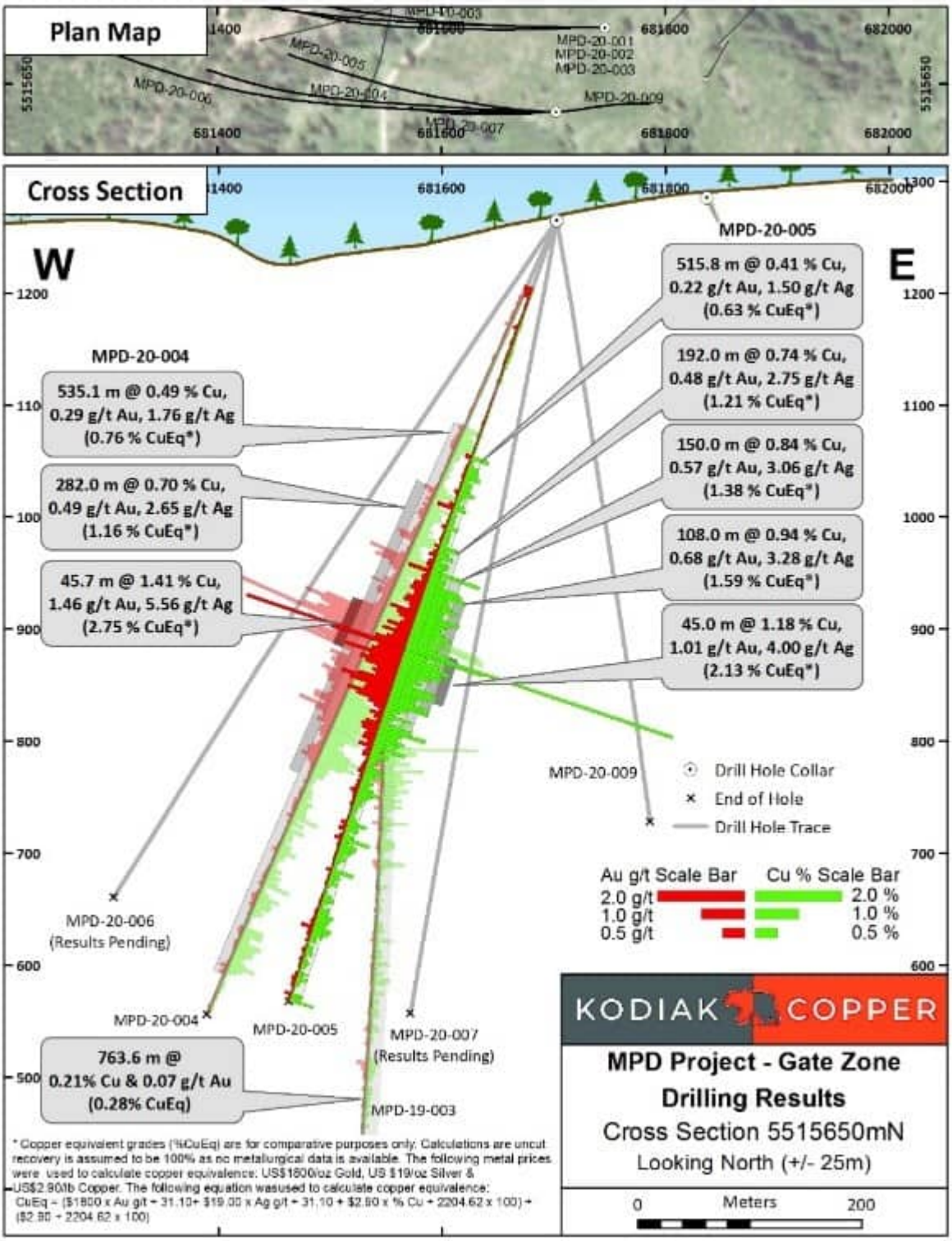
Last September 3rd, 2020 Kodiak Copper announced drill/assay results which were 'spectacular' in my opinion. The results included a massive **282 m of 0.70% copper and 0.49 g/t gold** (1.16% CuEq). Due to this, the stock raced up from C$0.50 on August 24th to C$2.80 as of September 28th for a 460% increase. The good news for new investors is the hype in the stock price has since settled down, with the price now back at C$1.64 and trading on a market cap of just C$66 million, despite plenty of further good news since then.

Kodiak Copper has continued to produce very strong drill

results such as:

- MPD-20-004: **535.1 m of 0.49% Copper and 0.29 g/t Gold** (0.76% CuEq*) between 201.9 and 737.0 metres down hole, with a higher grade core (282 metres of 0.70% copper, 0.49 g/t gold).
- MPD-20-005: **515.8 m of 0.41% Copper, 0.22 g/t Gold and 1.50 g/t silver** (0.63% CuEq*) from 223.5 to 739.3 metres down hole, with a higher grade core (192 metres of 0.74% Copper and 0.48 g/t Gold).

Cross-sectional summary of drill results at the MPD Project – Gate Zone



Source

Looking ahead Kodiak Copper states: “The Company has just completed a successful 2020 drill campaign that resulted in **a transformative discovery of a high-grade central core within a broader, well-developed copper-gold porphyry system** at the Gate Zone. Kodiak will continue exploring at MPD in early 2021 with a fully funded, significantly larger program. Plans

include up to 30,000 meters of drilling in several target areas, as well as further geophysical and geochemical surveying, prospecting and geotechnical studies.”

It should also be mentioned that in the next few weeks the final assay results from the 2020 drill program are due which will be most interesting to see.

Closing remarks

I agree with Goldman Sachs that we are likely entering a green energy and EV commodities supercycle this decade. Battery metals (lithium, cobalt, graphite, nickel), key rare earths, and copper are likely to be the big winners.

Investors can look to position themselves ahead of the supercycle by buying into quality and promising junior miners now. Kodiak Copper is still a junior but they have plenty of potential with a possible large sized copper-gold porphyry deposit in BC Canada and the right management to deliver. They also have two other promising projects – The Mohave Copper-Molybdenum-Silver Porphyry Project in Arizona USA, and the Kahuna Diamond Project in Canada. One to follow for sure.

Further reading and viewing:

- Kodiak Copper – Annual Investor Letter
- Claudia Tornquist on Kodiak’s MPD Copper-Gold Porphyry Project and new shareholder (video)

White House News: Trumps test

positive for COVID-19 and critical materials national emergency declared

As Americans wake up today they will learn that their President and First Lady have both tested positive for COVID-19 (coronavirus). This follows the other big news from the White House just two days earlier that an Executive Order has been issued declaring **"a national emergency"** to deal with the threat of a lack of critical minerals supply chain for the US. If we add in the debate earlier this week, it certainly has been a busy and bruising week for the White House.

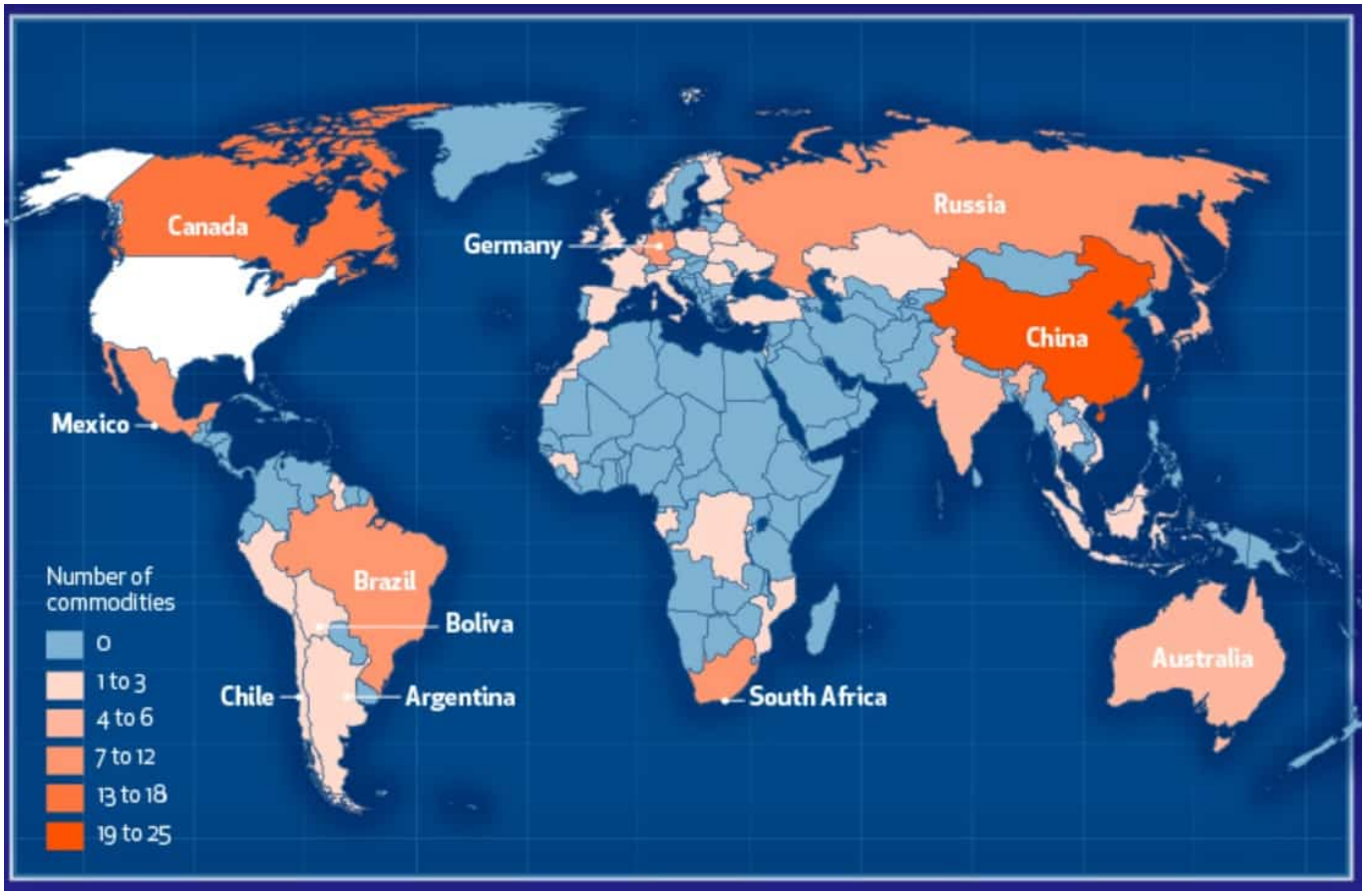
With just one month to go to the US election on November 3, the White House has been thrown into chaos. US futures have reacted negatively and are down. President Trump has been criticized for his poor handling of the COVID-19 crisis that has now infected almost 7.5m Americans and killed 212,694. Now he is one of them. There is no doubt as many Americans still await a long delayed stimulus package many will have mixed feelings about today's news. For investors they will be watching the fallout as markets open.

But there is a ray of sunshine for investors in critical materials companies. On September 30 The White House announced: "Executive Order on addressing the threat to the domestic supply chain from reliance on **critical minerals** from foreign adversaries."

The U.S. List of 35 critical minerals include the following: (1) Aluminum (bauxite); (2) Antimony; (3) Arsenic; (4) Barite; (5) Beryllium; (6) Bismuth; (7) Cesium; (8) Chromium; (9) Cobalt; (10) Fluorspar; (11) Gallium; (12) Germanium; (13) Graphite (natural); (14) Hafnium; (15) Helium; (16) Indium; (17) Lithium; (18) Magnesium; (19) Manganese; (20) Niobium;

(21) Platinum Group of Metals; (22) Potash; (23) The Rare Earth Elements Group: (Cerium, Dysprosium, Erbium, Europium, Gadolinium, Holmium, Lanthanum, Lutetium, Neodymium, Praseodymium, Promethium, Samarium, Terbium, Thulium, Ytterbium and Yttrium); (24) Rhenium; (25) Rubidium; (26) Scandium; (27) Strontium; (28) Tantalum; (29) Tellurium; (30) Tin; (31) Titanium; (32) Tungsten; (33) Uranium; (34) Vanadium and (35) Zirconium. The six underlined are those included in the ORE Act, which also seeks to secure US supply or these 6 critical materials.

Major US import sources of non-fuel mineral commodities – China dominates



Source: Courtesy US Geological Survey

The key points of the September 30 President Trump critical minerals Executive Order are:

- The US's undue reliance on critical minerals, in

processed or unprocessed form, from foreign adversaries constitutes an unusual and extraordinary threat. “I (President Trump) hereby declare a national emergency to deal with that threat.”

- “By expanding and strengthening domestic mining and processing capacity today, we guard against the possibility of supply chain disruptions and future attempts by our adversaries or strategic competitors to harm our economy and military readiness.”

In response to the threat President Trump proposes several measures to be taken with different time frames ranging from 30 to 60 days from September 30, 2020.

The Executive Order says the US Gov. will look into giving “grants to procure or install production equipment for the production and processing of critical minerals in the United States”, “loan guarantees” and for projects that support domestic supply chains “funding awards and loans pursuant to the Advanced Technology Vehicles Manufacturing incentive program.”

For investors in the critical minerals mining sector this is good news and very welcome. The main winners so far have been the US or Canadian based critical minerals companies or those that can help supply the USA with critical minerals. Some examples have been Lithium Americas (lithium), Westwater Resources (graphite), most of the rare earths companies, and most of the electric vehicle (EV) metal miners.

InvestorIntel Rare Earths Watchlist Top 5 from October 1, 2020

Source

The Tesla Battery Day revelations now mean that the EV revolution will rapidly accelerate. Tesla plans to have 3TWh of battery capacity by 2030, which will be enough for Tesla to make 20 million (m) EVs per year plus energy storage products. To get a feel for the demand shock wave to hit EV metal miners, if Tesla produces 20m EVs in 2030 that will require 2.7m tonnes of lithium carbonate equivalent (LCE), which is 9x total 2019 global supply. Wow!

Investing in the critical materials miners and other parts of the supply chain to support the US this decade, as the world rapidly moves to renewable energy and EVs, just got a HUGE boost.

Now we wait and see what happens next with President and Lady Trump, the US election, and the COVID-19 pandemic. No-one can say that 2020 has been a boring year!

Lab tests show ZEN Graphene's virucidal ink 99% effective against COVID-19; patent applied for

Optimization, production scale-up and commercialization planned

Another month deeper into the global COVID-19 crisis and the world is still looking for effective tools to combat the pandemic. Virus testing is still both not widespread nor accurate enough, and a vaccine still eludes us. Governments and businesses are grimly contemplating the consequences of a second (or is it the third or fourth?) wave and the potential for another economy-crippling, government-sanctioned lockdown. In the meantime, we are all looking for ways to avoid the virus and keep ourselves healthy.

On September 22, 2020, ZEN Graphene Solutions Ltd. (TSXV:ZEN | OTC:ZENYF) announced that after 5 months of optimization, it has **developed and successfully tested a novel graphene-based virucidal ink with 99% effectiveness against COVID-19**. The ink, used as a coating or protective layer on masks and other PPE, was shown to be 99% effective against the COVID-19 virus and significantly was **still 99% effective a minimum of 35 days after application** to N95 mask material. The company is now developing plans to expedite commercialization of this product, pending regulatory approval, and has filed a provisional patent for this graphene-based virucidal product and is beginning antibacterial and antifungal tests utilizing its proprietary virucidal ink formulation.

ZEN Graphene followed up this announcement with more news on

September 28, 2020 that the University of Guelph has filed a **provisional patent** regarding an electrochemical exfoliation process to produce graphene oxide (GO) from Albany Pure Graphite. The exfoliation method is designed to be a scalable, low cost, low energy and environmentally friendly method of producing graphene oxide, a key ingredient in ZEN's proprietary virucidal ink.

A virucide is any physical or chemical agent that deactivates or destroys viruses. This differs from an antiviral drug, which inhibits the proliferation of the virus. Virucides are not intended for use inside the body, but they are effective on surfaces outside the body.

In the recent results from Western University's ImPaKT facility Biosafety Level 3 laboratory, two ZEN Graphene graphene-based ink samples at different concentrations were applied to N95 mask filtration media and then exposed to the SARS-CoV-2 virus that causes COVID-19 and tested for antiviral properties. Very significant virucidal activity was recorded and reported, **achieving 99% inactivation of the virus** for both samples in 3 separate tests each and verified through a second round of testing. Of significance, the antiviral effect of the second round of testing was on material that was prepared 35 days earlier demonstrating the ongoing virucidal activity of ZEN's proprietary ink.

The research and development of this antiviral ink formulation was conducted entirely by ZEN's research team at its Canadian facility using a graphene product that was **produced from its Albany mine graphite**.

The significance of the ZEN Graphene virucidal ink is based on the physical characteristics of graphene. Graphite flakes extracted from the ZEN Albany mine in Ontario to convert to graphene are approximately 9 microns (9,000 nanometers) making conversion to graphene very cost effective. Graphene is 200 times stronger than steel, conducts heat 10 times more than

copper and conducts electricity 1,000 times better than copper according to ZEN Chairman and CEO Dr. Francis Dubé.

In other words, you soon could be wearing a mask with the ZEN virucidal ink on it and would not know the difference between that and a non-coated mask. Except to know that you are now actually wearing something that actually kills the coronavirus as it passes through your mask.

There are still multiple steps for ZEN to go through before the virucidal ink is publicly available on personal protective equipment, but this is a big step forward towards commercialization as technology brings society closer to a coronavirus solution. In the meantime, ZEN intends to continue to move rapidly towards optimization, production scale-up and commercialization of its graphene-based ink.

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dynaCERT expands into the FreightTech industry with new software offering

Decision to enter the FreightTech industry seen as an "evolution of services that fit very naturally with dynaCERT"

dynaCERT Inc. (TSX: DYA | OTCQX: DYFSF | FRA: DMJ) is best known for their Carbon Emission Reduction Technology (CERT) for use with diesel engines. Their flagship product is HydraGEN™, an electrolysis unit that produces H2 and O2 gases to optimize the diesel fuel burn, resulting in a 6-19% increase in fuel economy and a 50%+ reduction in emissions.

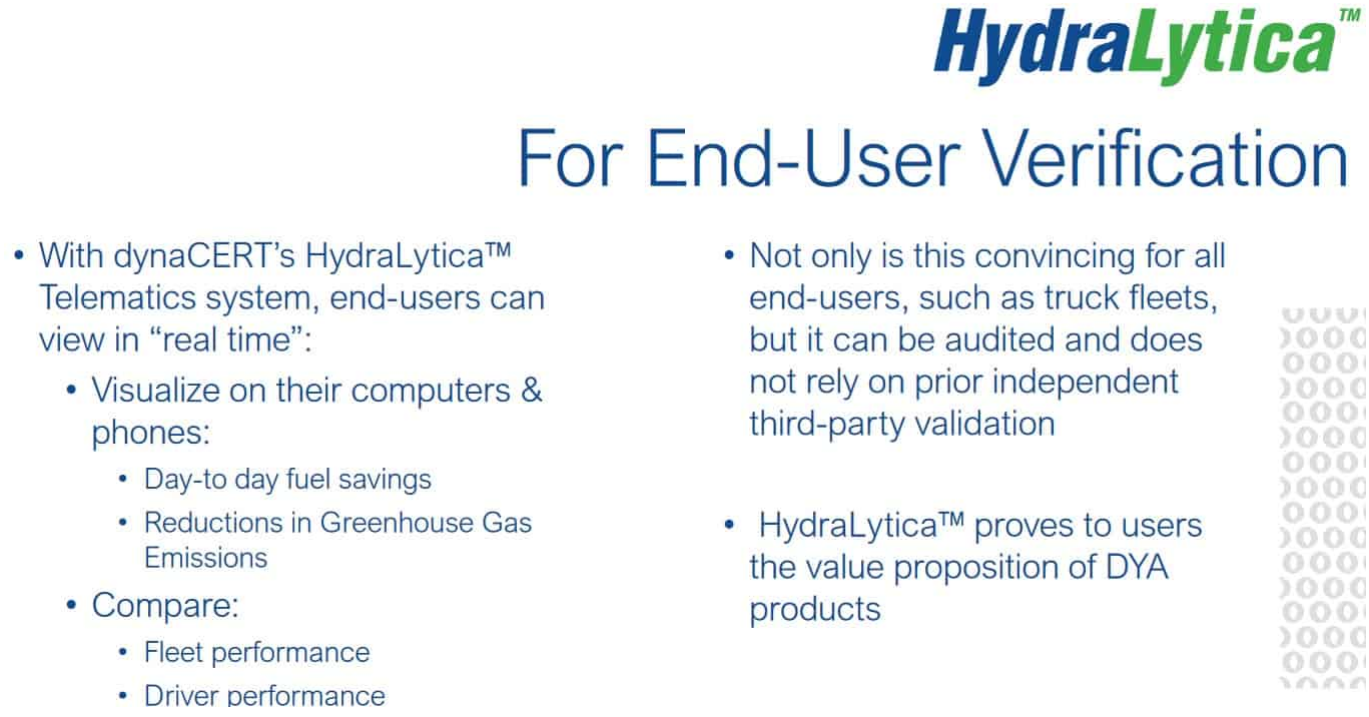
With most fleet and logistics companies now using software to

monitor their fleet’s activities and performance, dynaCERT has added a new service option called HydraLytica™ to its proprietary suite of FreightTech software applications. The company sees this as a supplementary evolution of services that fit very naturally with *dynaCERT* ’s fuel-saving and emission-saving know-how. HydraLytica™ not only monitors the standard variables but offers much more, especially in relation to fuel economy, driver performance, and greenhouse gas emissions monitoring. The new FreightTech solution reports the data in a simple and understandable mobile application, and provides recommendations for important fleet optimization such as fleet management, route planning, driver safety, and load management.

HydraLytica™ Telematics system is a win-win for both fleet operators and dynaCERT

dynaCERT’s HydraLytica™ measures fuel savings in real time. While it is designed to work with dynaCERT’s HydraGEN™, it will be available to all potential customers and not restricted to just HydraGEN™ users. In an announcement this week dynaCERT explains how, in combination with dynaCERT’s software developer Corsario Ltd. and its marketing arm GP LogiX Inc., it plans to greatly expand the scope of applications to respond to the growing industry needs of logistics companies, and the broader trucking management software ecosystem.

The new addition of HydraLytica™ is a big plus for fleet operators. It means they can better monitor more variables, especially those in relation to fuel efficiency and emissions. It is also a big win for dynaCERT, as HydraLytica™ users can see for themselves the value proposition of dynaCERT’s products such as HydraGEN™. It also means a subscription service revenue stream for dynaCERT.



Source

Usually the biggest expense for fleet operators is fuel and labor. dynaCERT's HydraLytica™ allows operators to better monitor both fleet fuel efficiency and driver performance. Monitoring can be done live with real time data on either a PC or smartphone.

"The delivery of our solution is through a managed service, where, not only is the raw data available to the user, but the software monitors industry-based Key Performance Indicators comparing real time data streams to industry averages and reporting areas of deficiency", says dynaCERT. "Our FreightTech solution reports the data in an easy to use and easy to understand mobile application as well as providing recommendations on numerous matters such as fleet management, route planning, driver safety, and load management."

Marketing of HydraLytica™ by GP LogiX Inc. is already gaining traction with a number of companies already utilizing the software platform. These include Day & Ross, Ottaway Motor Carriers, Drisco Carriers (based in the USA) and Stevens Brothers Trucking (based in the USA).

Several new deals for HydraGEN™

In the past two months dynaCERT has continued to successfully commercialize their HydraGEN™ technology. This includes:

- September 8, 2020 – A deal to equip diesel powered vehicles of the City of Woodstock (Ontario) with Carbon Emission Reduction Technology.
- August 31, 2020 – A JV with Alltrucks GmbH & Co. KG. Alltrucks intends to introduce and promote marketing, installation and servicing of dynaCERT's HydraGEN™ product line to the established network of Alltrucks. Alltrucks offers a Pan-European workshop concept for maintaining and repairing commercial vehicles of all types and brands. Alltrucks has one of the largest workshop networks in Europe with 700 workshops in 12 countries.
- August 20, 2020 – dynaCERT receives purchase order to complement COVID-19 safety package for trucking industry.

dynaCERT also continues to commercialize their products with 25+ dealers globally, and is currently improving and expanding their manufacturing facility to triple capacity.

dynaCERT's global business model

Source

With about one billion diesel engines on the road, dynaCERT continues to evolve and grow new products that are both effective and in demand for the diesel trucking industry as it moves forward into a greener and more energy efficient future.

H2O Innovation walks on water with $133 million in revenue at year end

Water, water everywhere… Most of us have the luxury of not giving water much thought, but it is a business. Big business.

H2O Innovation Inc. (TSXV: HEO | OTCQX: HEOFF) is making waves in the world of water and wastewater solutions. The company's just released results for fiscal 2020 (June 30 year-end)

showed significant revenue growth in a year with the dominant headline being the global virus pandemic. Top-line revenue of $133.6 million was up more than $15 million from $118 million the previous fiscal year – who knew water handling could be so lucrative? Many investors don't even know the company exists, but results like these could make them sit up and take notice.

In addition to the impressive revenue growth in fiscal 2020, the company also saw big improvements in financial performance:

- Gross profit margin before depreciation and amortization expenses represented 26.9% of the company's total revenues for fiscal year 2020, compared to 23.0% for the previous fiscal year;
- Adjusted EBITDA reached $12.5 million, or 9.4% of revenues, for this fiscal year compared to $7.2 million, or 6.1% of revenues, for the previous fiscal year;
- Earnings of $0.9 million before impairment and restructuring costs for the 2020 fiscal year, compared to a loss of $2.2 million before impairment and restructuring costs of nil for the previous fiscal year;
- Net earnings of $0.8 million for the fourth quarter of fiscal year 2020, compared to a net loss of $1.2 million for the comparable quarter of the previous fiscal year; and,
- Cash flows from operating activities generated $12.3 million in cash for this fiscal year, compared to $5.8 million of cash flows from operating activities generated during the previous fiscal year

As highlighted in a recent new equity analyst research report by Desjardins Securities (the company now has research coverage by a total of six brokerage firms in Canada and one in the US), H2O Innovation's "business has been highly resilient amid COVID-19 given its status as an essential service provider. Published results have been solid and the backlog remains healthy. We have a high degree of confidence

that the company would be able to navigate a potential second wave.”

H2O Innovation provides solutions for drinking water, wastewater and water reuse applications in several market segments, including municipal, oil & gas, and food & beverage. It designs, manufactures and commissions customized membrane water treatment systems and provides operation and maintenance services as well as a complete line of specialty products such as chemicals, consumables, couplings, fittings and cartridge filters for multiple markets. The company also designs, manufactures and implements digital solutions for automation and control technology.

Water in the “first world” is something that most people take for granted – it’s clean and readily accessible. But in many instances, that is a mistaken assumption as water supply and wastewater disposal systems age and infrastructure upkeep has not kept pace with population growth. Elsewhere, according to Hearts and Hands for Humanity, every minute a child under 5 years old dies from water-related disease in Africa. More than 40% of the African population has no access to clean water and over 60% of the population has no access to sanitation. That’s just one extreme example on one continent, but it puts the problem in context.

H2O Innovation does business around the world, but mostly in North America with almost 20% of business coming from other global sales. The company has three main business segments – Operating and Maintenance is the largest at approximately 48% of revenues, Specialty Products is the next largest at approximately 30%, with Projects & Aftermarket (Water Technologies & Services) accounting for the remaining 22%. The company has a very high percentage of recurring revenue (88% in Fiscal Q3) – more than double what it was five years ago – as a result of their business model, which promotes and encourages strong customer retention.

Source: H2O Innovation

H2O Innovation is now 20 years old and has a market capitalization of approximately $100 million, so this is not an overnight success story. The company has grown both through acquisition as well as organically as it competes in a highly fragmented market and is a market leader. For example, the company's water purification systems use both membrane technology and reverse osmosis, but are designed to use multiple suppliers' systems – allowing customers to choose the right solution.

Through acquisition and organic growth, the company has built a strong line of specialty chemical products for membrane treatment plants and has one of the largest distribution networks in the industry with global manufacturing capabilities. All-in-all, the company's three business segments provide a complete solution for customers in every segment and provide for cross-selling opportunities to enhance company revenue growth.

Looking ahead, the company sees the US as a very large potential market for growth as the US EPA estimates water infrastructure investments for the country in the tens of billions of dollars. Leading the four major regions is California (>US$25 billion), with Texas, Florida and the most populous states in the eastern US all requiring $5 – $25 billion of investments. However, globally there will also be billions spent on desalination infrastructure primarily in the Middle East and North Africa (MENA) to respond to increasing demand in the region, providing another market with potential for H2O Innovation.

While H2O Innovation is not the largest in the market segment, it is small enough to be nimble but large enough to provide integrated solutions in a global network. The company

continues to have a strong balance sheet, excellent customer retention and a market leading reputation for quality, innovation and service. With a growing backlog of orders, the company has no shortage of future business which should be good news for investors looking forward to the potential for future growth in a world that relies on clean water.

Vital Metals aims to become the lowest cost producer of mixed rare earths oxide outside of China

Demand for secure supply of rare earths grows with technology and electric vehicles

We have known about this ”problem” for more than 20 years. You don’t have to be sinophobic, but if you are a manufacturer who relies on the sourcing of Rare Earth Elements (REEs) for your manufacturing outputs, maybe you should be. China still counts for about 80% of the world’s REE production. They have dominated the world of rare earths since the late 1990s, but growing reliance on technology requires more and more of the somewhat obscure but necessary REE minerals to create our electronic gadgets and increasingly, electric vehicle and accessory components.

Enter Vital Metals Limited, (VML: ASX) an Australian listed global explorer of rare earths. While their initial impact may

be small in the future supply-chain for REEs, they are an important part of the global movement for the diversification of REE production from a concentrated source – think eliminating the OPEC dominance of oil production 50 years ago and how the world succeeded (mostly) with that.

OK – what is a rare earth element and why are they important? There are technically 15 REEs, although two others are generally included as they have similar characteristics. They are further broken down into "light" REEs that are produced globally (and are in abundance) and "heavy" REEs that are produced mostly in China and are in limited supply. Heavy REEs are in demand for their usage in high technology and clean-energy applications. The US military is buying these from China to manufacture – among other things – their armored vehicles, precision-guided weapons, batteries and night vision goggles. China is not the enemy, but at the very least the global supplier is not considered a "friendly".

REEs are mined. Mining of these elements is usually in remote and not-so-hospitable locations. Any region that has REE potential that is close to accessible infrastructure should be on the list of "mines to be developed".

Vital Metals has two of these projects, one in Canada and one in Africa. Their Nechalachco rare earths project in the Canadian Northwest Territories (NWT) on the edge of Great Slave Lake is scheduled to commence the production of rare earth oxide in the first half of 2021. Everything is on track to meet this production schedule as a result of years of previous work on the project (and expenditures of more than $100 million), and the design of the project parameters is aimed at early cash flow (and low capital costs) of a production stream that is highly desirable to end users.

On August 22, 2020, Vital Metals announced a binding term sheet for the construction and operation of a rare earth extraction plant to produce a mixed rare earth carbonate

product. Significantly, the plant will be located adjacent to the Saskatchewan Research Council's (SRC) planned separation plant which will be able to convert rare earth carbonate mixes to commercial grade rare earth oxides. Vital's plant is expected to be operational in Q3-2021 with feedstock from their Nechalachco mining project.

Most people do not know that the SRC has almost a decade of expertise in REEs (associated with uranium mining in Saskatchewan) and recently announced the construction of a rare earth processing facility in Saskatchewan, the first of its kind in Canada. The SRC facility is expected to be operational in late 2022. It is hard to overestimate the importance of Vital Metals' rare earth extraction plant being built in the neighborhood of the SRC facility.

Source: company presentation

The team at Vital are recognized for their expertise in the global rare earth element arena including all necessary elements of mining, processing, geology and marketing. The devil really is in the details, and Vital's team has a cost and time effective strategy to deliver early production and cash flow. Remote locations require extensive planning and timing is everything as mining and processing equipment can only be delivered and setup during certain weather windows.

The company's market capitalization is only about A$26 million. They estimate that developing the first mine in northern Canada will require less than A$20 million total capital cost for their first project (North-T, 100% interest), some of which can be funded by future generated cash flow. There is also significant potential upside in the area for exploration and production expansions, which would likely also be funded by internally generated cash flow. The company has a plan to develop the bigger Tardiff Project by 2024, aiming for

a 20 year mine life and leveraging off existing infrastructure as the “next phase” in the area.

Vital Metals’ second REE project is in Tanzania, with rail and power infrastructure within approximately 10 km of their 90% owned Wigu Hill Project. Previous owners spent approximately $10 million and management is of the view that this is a high grade, potential world class resource. This asset has an older NI 43-101 evaluation report attributing to it 3.3 Mt at 2.6% REO.

The global movement away from China as the main source of rare earth elements has been underway for a number of years. The world always knew that as technology developed REEs would become more and more important, but with the development of electric vehicles in particular it is now becoming increasingly apparent that there is a need for more secure and friendly sources of REEs. Vital Minerals’ aim is to become a global player in the production of REEs. Their expertise, projects and potential appear to have put them squarely on this path.

See also video: Interview with Vital Metals’ Managing Director Geoff Atkins on their rare earths production and new extraction facility.

Vital Metals new Rare Earths Extraction Plant planned

adjacent to SRC’s Separation Plant

Vital Metals on track to become a rare earths carbonate producer in 2021

In news out today rare earths carbonate developer Vital Metals Limited (ASX: VML) (‘Vital’), through its 100% owned subsidiary Cheetah Resources, has signed a binding Term Sheet with the Saskatchewan Research Council (‘SRC’) to negotiate definitive agreements for the construction and operation of a Rare Earth Extraction Plant to produce a mixed rare earth carbonate product. The capital cost estimate of the Rare Earth Extraction Plant is A$5.25m.

The Rare Earth Extraction Plant is planned to be located adjacent to a recently announced Rare Earth Separation Plant in Saskatchewan, Canada, and could provide a rare earth carbonate feedstock to produce a commercial grade separated rare earth oxide. The proximity makes it natural for SRC’s Separation Plant to be a potential customer of Vital/Cheetah’s mixed rare earth carbonate product from their planned Extraction Plant.

Vital Metals’ Managing Director Geoff Atkins comments

“The signing of this Term Sheet with SRC marks an important milestone for Vital and the development of the Nechalacho Project,” said Vital Metals’ Managing Director Geoff Atkins. “Whilst the Definitive Agreements continue to be finalised in line with the Term Sheet, the Company is excited about the prospect of the construction and operation of a rare earth demonstration extraction plant, as well as it being co-located with SRC’s recently announced rare earth separation plant. Being the only rare earth project in Canada with near term

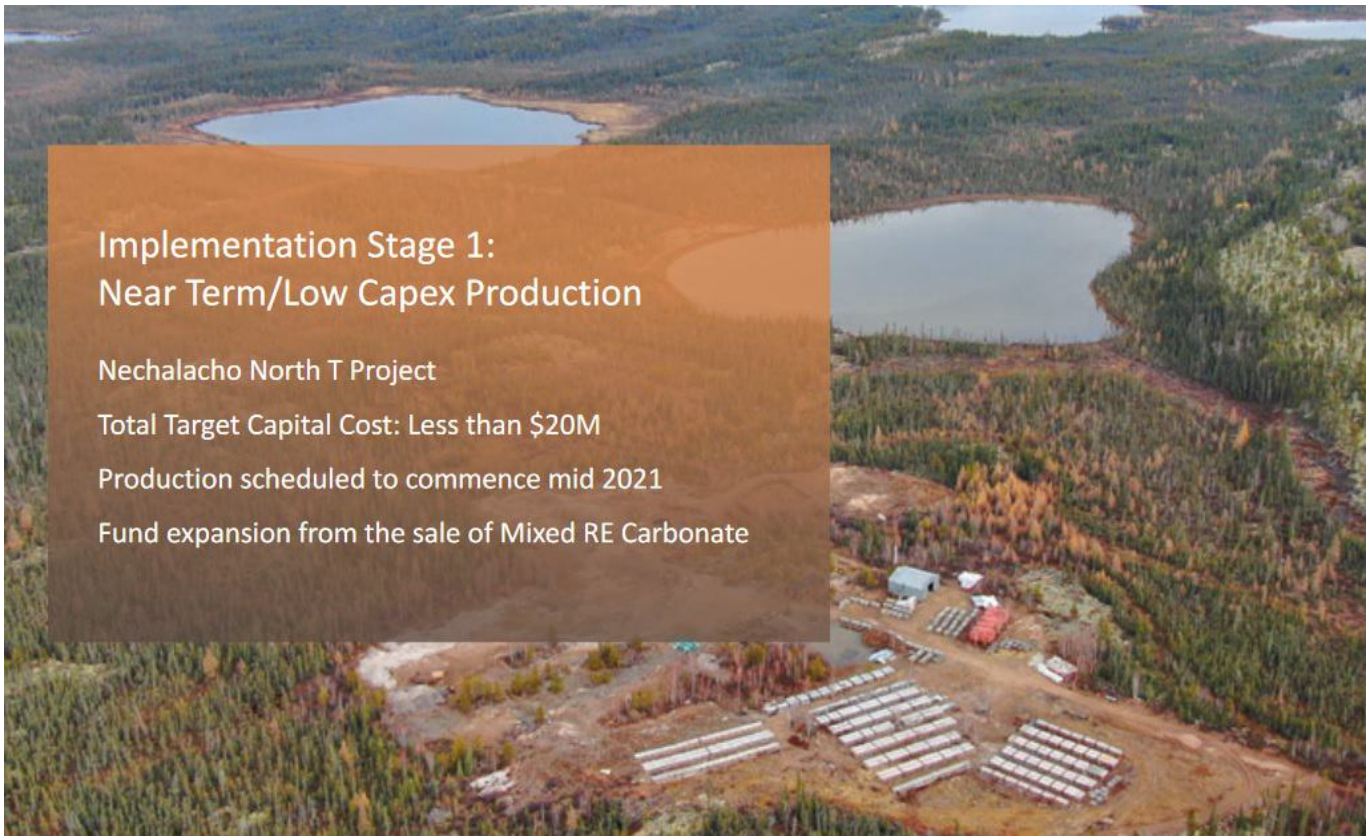
production capability, co-located with Canada's only Separation Facility, provides Vital the opportunity to be a cornerstone of the North America Critical Minerals Strategy."

Vital Metals low CapEx strategy to become a rare earths carbonate producer in Canada

Traditionally rare earth miners would look to build a huge plant to make a rare earths end product, however Vital Metals has a different strategy to reach production quicker and with a much lower CapEx, as well as supporting a much needed **non-China rare earths supply chain**.

Vital is an explorer and developer with highly prospective mineral projects, focusing on their world-class rare earth Nechalacho Project in Canada. **Their strategy is to be the largest independent supplier of clean mixed rare earth feedstock outside of China**, with a goal to produce a minimum 5,000 tonnes of contained rare earth oxide (REO) by 2025. A key component to the plan is a much smaller scale plant with an extremely low CapEx of just A$20m to produce rare earth carbonate. Subject to the various hurdles such as funding, Vital Metals hopes to begin production at their Nechalacho Project in 2021. Once in production, Vital's strategy is to generate low cost near-term cash flow to fund the development of large-scale operations.

Vital Metals Nechalacho Project and Stage 1 strategy



Source

Vital owns two world class rare earth projects – Nechalacho in Canada with ~95mt at 1.46% TREO, and Wigu Hill in Tanzania with 3.3mt at 2.6% TREO.

The Nechalacho Project (Canada)

The Nechalacho Project is a rare earth project located in Northwest Territories, Canada. The current resource estimate is 94.7mt at 1.46% REO (measured, indicated and inferred). The North T Zone at Nechalacho hosts a high-grade resource of 101,000 tonnes at 9.01% LREO (2.2% NdPr). Vital is targeting production of rare earth oxide in 2021 with early production from the North T starter pit.

More than $120 million has been spent by previous owners on drilling, permitting and project development at Nechalacho, which includes a 40-person camp and airstrip. The Project is **fully permitted for a 600kt mining and ore sorting operation** and is 100km from Yellowknife. The local infrastructure is

well established with access to the Canadian National Railway at Hay River. Access to the site is via barge in summer and ice road in winter.

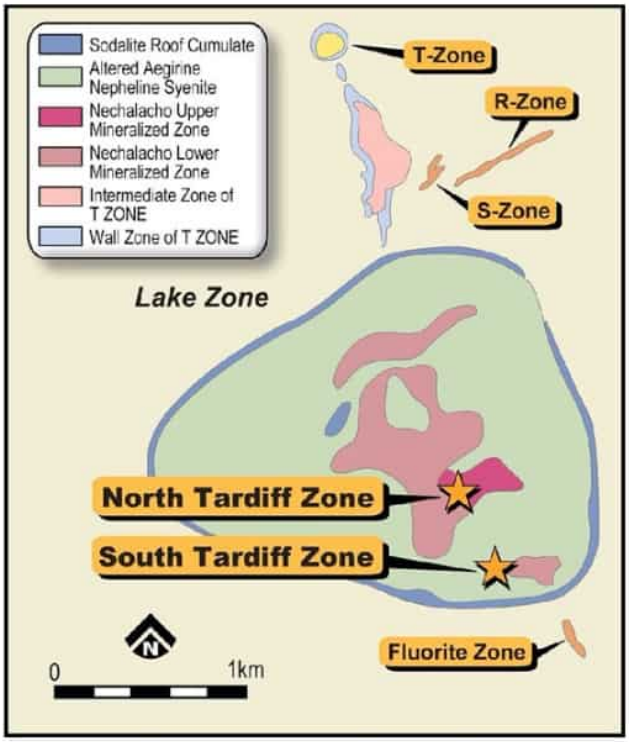
The metallurgy is a simple process involving a 35%+ initial beneficiation via ore sorting and 97% recovery into solution via hydrochloric acid using an industry standard process.

Vital has already completed detailed engineering for the ore sorting plant, defined capital and operating costs, and begun site preparation works. Off-take negotiations are reported to be progressing well with a number of non-China buyers.

Vital Metals next steps and map showing the Tardiff Zones

Next Steps

- Site preparation works to commence in Q3 2020 including site clearing, camp upgrade and installation of the ore sorter sub-structure
- Finalisation of a contract for the construction and operation of a Rare Earth Extraction Facility to produce Mixed Rare Earth Carbonate product for sale - Q3 2020
- Confirm Off-take agreements - Q3 2020
- Sampling program to undertaken in South T, R Zone and S Zone to evaluate potential of T-Zone expansion
- Undertake infill drilling at Tardiff Zone



Source: company presentation

Management is highly experienced. For example, Managing Director Geoff Atkins has 25 years of project and corporate development experience, including four years as Corporate Planning Manager at Lynas Corporation where he oversaw the strategic planning process and the development of the Mt Weld Concentration Plant and Lynas Advance Materials Plant in

Malaysia.

Today’s news from Vital suggests that, assuming progress continues successfully, the SRC will support Vital in its construction and operation of their Nechalacho Project. Subject to execution of definitive agreements, processing operations are planned to start in the third quarter of 2021.

The current market cap of Vital Metals is A$52m.